

THE
ONTARIO WATER RESOURCES
COMMISSION
WATER POLLUTION SURVEY
of the
COMMUNITY OF VAL GAGNE
TOWNSHIP OF BLACK RIVER

October, 1965

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ONTARIO WATER RESOURCES COMMISSION

REPORT ON

A

WATER POLLUTION SURVEY

OF THE

COMMUNITY OF VAL GAGNE

TOWNSHIP OF BLACK RIVER

1965

THE DIVISION OF SANITARY ENGINEERING

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ONTARIO WATER RESOURCES COMMISSION

REPORT

INTRODUCTION

A water pollution survey was carried out in the Community of Val Gagne on July 8, 1965. The purpose of this survey was to locate and record all significant sources of water pollution within the community. Such surveys are performed routinely, and upon request, by the Ontario Water Resources Commission as a basis for evaluating all existing and potential sources of pollution. Where sources of pollution are found, corrective action is requested by the Commission.

The information received from the township officials and the Porcupine Health Unit during this survey is gratefully acknowledged.

I GENERAL INFORMATION

The Community of Val Gagne is located in the north-west portion of the Township of Black River in the District of Cochrane. The population of this community is approximately 385. The economy is primarily based on farming.

Drainage for the surrounding farm lands is provided by natural intermittent watercourses which eventually discharge to the Black River.

II WATER USES

1. Private Water Supplies

In the absence of municipal supplies, the populace relies on privately-owned wells.

2. Industrial Water Supplies

Val Gagne Creamery - All water for operations at this creamery is obtained from a single well supply. No pumpage figures could be obtained.

3. Recreational

The Black River, being the major watercourse in the Township of Black River, is used for such recreational purposes as fishing, swimming, and boating.

III WATER POLLUTION

1. Sanitary Waste Disposal

(a) Existing Conditions

Domestic waste disposal is provided by septic tank and sub-surface tile bed systems. The remaining residences rely on private privies for sewage disposal.

Residences and business establishments located along the secondary Highway No. 626 have sewer connections to a storm sewer which runs along the west side of the highway. It was not known whether treatment was provided for the sanitary wastes before entry to the storm sewer.

On the east side of the highway at the intersection with Val Gagne Road, the storm sewer discharges the domestic wastes and storm water to a small watercourse which meanders in an easterly direction and finally drains into the Black River.

Because of lack of good surface drainage, adverse topographical features, extremes of temperature and inadequate space available on the subdivided lots in the community, the construction and proper functioning of private septic tanks and sub-surface tile beds are restricted.

(b) Proposed Sewage Works

At the request of the Council of the Township of Black River, the Ontario Water Resources Commission has investigated the possibility of installing a sewage works within the township (Project No. 64-S-168) and proposes to construct such a works. The sewage works will consist of sanitary sewers on the secondary Highway No. 626, Church Avenue, Lessard Street, First Avenue, and Val Gagne Road and a waste stabilization pond with effluent discharging to a nearby watercourse.

Construction of this project has been delayed subsequent to the reception of two objections from residents of Val Gagne. The Township of Black River is awaiting a hearing by the Ontario Municipal Board.

2. Refuse Disposal

The refuse disposal site is located in Concession 4, Lot 11, in the unorganized Township of Taylor which is incorporated in the Township of Black River. It is an open dump in which refuse is neither burned nor covered. There are no watercourses nearby and therefore the site does not present a water pollution problem.

3. Industrial Waste Disposal

Val Gagne Creamery - This Creamery is located on the secondary Highway No. 626 in the northern section of the Community of Val Gagne. Cream is purchased from approximately 100 producers and is processed in two 300-gallon pasteurizers and a single churn. Some 210,000 pounds of butter were produced during 1964. All buttermilk is stored and picked up by local farmers. Wash water is directed to the storm sewer. There are no sanitary facilities at the creamery.

4. Discussion of Sample Analyses

The OWRC objectives for surface waters in Ontario are as follows:

5-Day BOD - not greater than 4 ppm
MF Coliform Count - not greater than 2400 coliforms
per 100 ml

Adequate protection for these waters, except in specific instances influenced by local conditions, should be provided if the following waste discharge concentrations are obtained:

5-Day BOD - Not greater than 15 ppm
Suspended Solids - Not greater than 15 ppm

The laboratory results of the bacteriological examinations and chemical analyses of the sample collected from the watercourse receiving domestic wastes from the storm sewer are as follows:

<u>Sampling Point No.</u>	<u>Location</u>	<u>Date Sampled</u>	<u>5-Day BOD (ppm)</u>	<u>S O L I D S (ppm)</u>		
				<u>Total</u>	<u>Susp.</u>	<u>Diss.</u>
VG-4.0	Local creek downstream from storm sewer.	July 8/65.	160	950	282	668
	<u>Anionic Detergents as ABS (ppm)</u>	<u>Coliforms * per 100 ml</u>		<u>E. Coli. per 100 ml *</u>		
	8.0	24,000,000		24,000,000		

* Test performed by Ontario Department of Health Regional Laboratory Timmins, Ontario.

These results indicate that the coliform concentration and the 5-Day BOD concentration were in excess of the OWRC maximum objectives of not greater than 2,400 coliform organisms per 100 ml and 4 ppm, respectively. The excessive coliform population is caused by the presence of fecal matter. Coliforms occur constantly in large numbers in human and animal discharges. In polluted water their density is in rough proportion to the degree of sewage pollution. The 8.0 ppm of ABS is indicative of the presence of illegal discharge of wash water to storm drains.

Only one sample was collected in the community. There was no flow in the local ditches. The local creek has been fenced by farmers to prevent the access of cattle to the contaminated water in the creek.

Black River which is approximately **four** miles distant could not be sampled due to its inaccessability by road.

IV SUMMARY AND CONCLUSIONS

On July 8, 1965, a water pollution survey was carried out in the Community of Val Gagne in the Township of Black River.

The Community of Val Gagne does not have municipal water or sewage works.

The present method of waste disposal in the community is unsatisfactory. A sewage works project which would eliminate the pollution problems in the community has been delayed pending a hearing by the Ontario Municipal Board.

The discharge of polluting wastes to a watercourse is prohibited by the Ontario Water Resources Commission and action should be taken to correct this undesirable situation.

V RECOMMENDATIONS

The Council of the Corporation of the Township of Black River should continue its efforts to have the sewage works project realized.

All of which is respectfully submitted.

District Engineer


A.B. Redekopp.

Approved by

J.R. Barr, Director.

bw

Prepared by:

G.K. Boretski.

APPENDIX

GLOSSARY OF TERMS

Bacteriological Examinations

The most probable number technique is used by the Ontario Department of Health to obtain an approximation of the actual number of coliform organisms present. These organisms are the normal inhabitants of the intestines of man and other warm-blooded animals. They are always present in large numbers in sewage and are, in general, relatively few in number in other stream pollutants.

Biochemical Oxygen Demand (BOD)

The biochemical oxygen demand test indicates the amount of oxygen required for stabilization of the decomposable organic matter found in sewage, sewage effluent, polluted waters, or industrial wastes, by aerobic biochemical action. The time and temperature used are five (5) days and 20°C respectively.

Solids

The analyses for solids include tests for total, suspended, and dissolved solids. Total solids is a measure of the solids in solution and in suspension. Suspended solids indicate the measure of undissolved solids of organic or inorganic nature whereas the dissolved solids are a measure of those solids in solution.

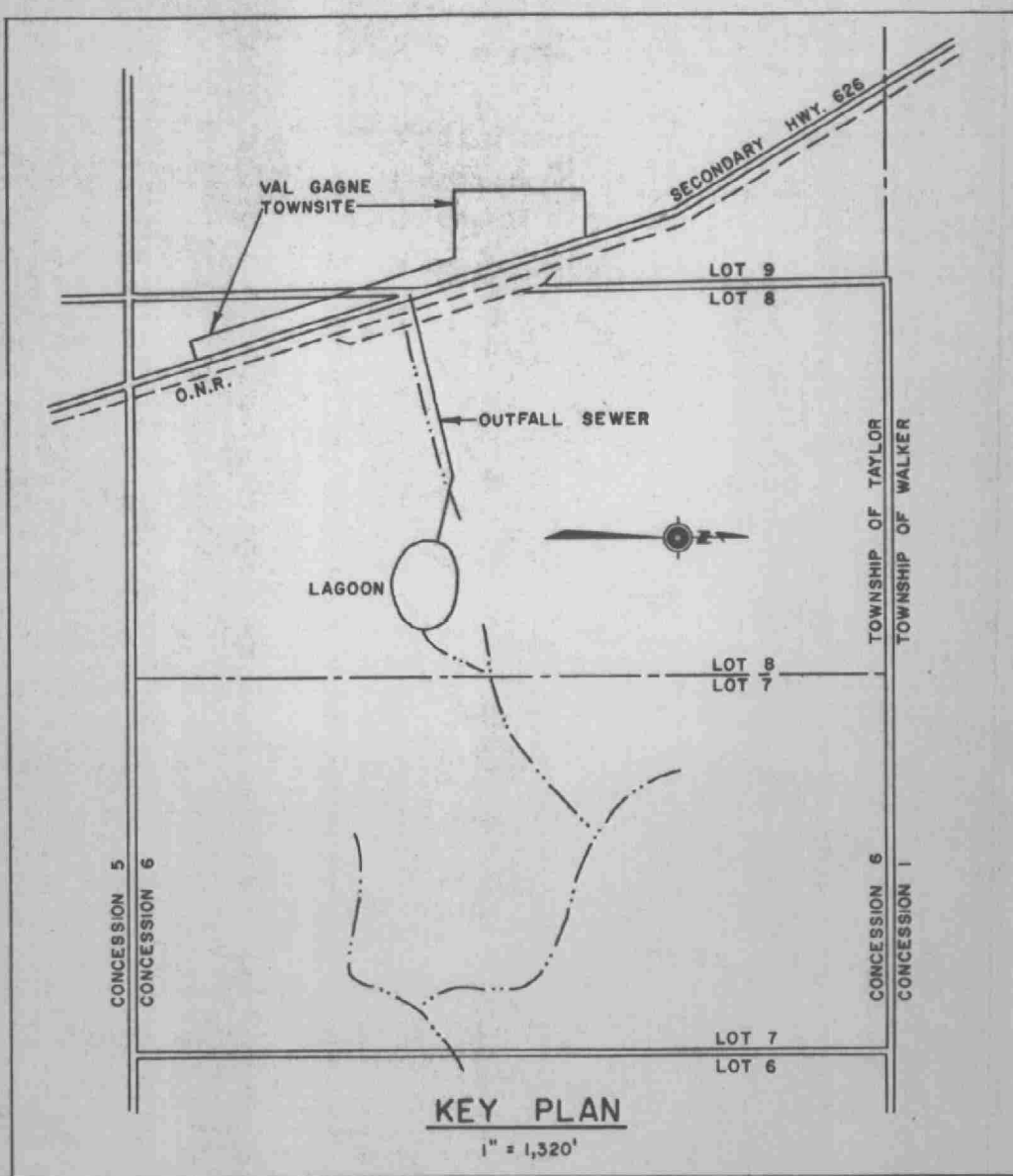
Turbidity

Turbidity is a measure of the fine suspended solids in water, such as silt and finely divided organic matter. Where suspended solids values approach 20 parts per million or less, the results are usually reported as turbidity in silica units..

ABS (Alkl Benzene Sulfonate)

The alkyl benzene sulfonate portion of the anionic detergents are reported in ppm. The test is generally employed to indicate the presence of illegal discharge of waste water to storm drains.

The popular use of synthetic detergents for general cleaning purposes has resulted in the incidence of residual ABS in streams. As an objective, the ABS concentration should not exceed 0.5 ppm in water used for domestic purposes.



LEGEND
V6-4.0 - SAMPLING POINT SHOWING STREAM AND MILEAGE

ONTARIO WATER RESOURCES COMMISSION	
TOWNSHIP OF BLACK RIVER	
VAL GAGNE TOWNSITE	
WATER POLLUTION SURVEY	
SCALE: 1" = 100'	
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